

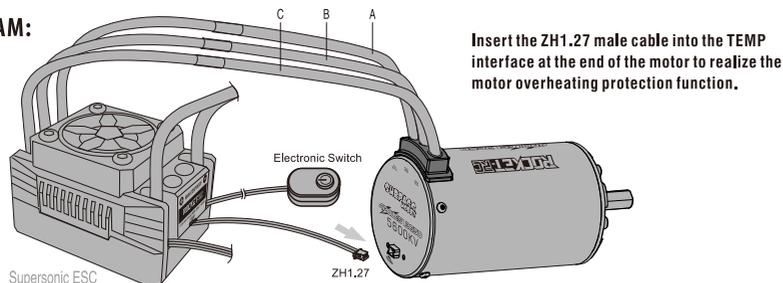
DECLARATION

This is Electronic Speed Controller (ESC) for car. High power system for RC model is very dangerous, so please read this manual carefully. Since we can't control over the correct use, installation, application, or maintenance of our products, we've no liability shall be assumed nor accepted for any damages, losses or costs resulting from the use of the product. Any claims arising from the operating, failure of malfunctioning etc. will be denied. We assume no liability for personal injury, consequential damages resulting from our product or our workmanship.

FEATURES:

- Water-proof and dust-proof for all-weather races; (Note: please uninstall the cooling fan before using this ESC in water; Clean and dry it soon after the use for avoiding the connectors get rusty.)
- Specially designed for RC car with excellent start-up, acceleration and linearity features.
- Compatible with sensorless brushless motor.
- The strong resistant current capability, excellent heat dissipation.
- Multiple protection features: Low voltage cut-off protection for lithium or nickel battery / ESC Over-heat protection / Motor Over-heat protection / Throttle signal loss protection / Motor blocked protection.
- Built-in switch-mode BEC 6.0V or 7.4V or 8.4V/6A for usage with high torque and high voltage servos.
- Low voltage cut-off protection the motor emits "Beep-Beep" and the LED flashes. ESC and MOTOR Over-heat protection the LED flashes. ESC Over-heat protection the LED one slow flash and two fast flashes. MOTOR Over-heat protection the LED one slow flash and one fast flashes.
- Automatic shutdown after two minutes of low-voltage protection, and automatic shutdown without operation for 5 minutes in other cases.
- Easily programmed and compatible with pocket-sized program card.

CONNECTION DIAGRAM:



SPECIFICATIONS:

Model	Supersonic V2 50A	Supersonic V2 60A	Supersonic V2 90A	Supersonic V2 110A
Cont. Current/Burst Current	50A/240A	60A/360A	90A/480A	110A/520A
Motor Type	Sensorless Brushless Motor For 2S Lipo or 6 cells NiMH: 1. On-road: 3650-size or smaller motor with the KV < 5600 2. Off-road / Buggy / Monster: 3650-size or smaller motor with the KV < 3900 For 3S Lipo or 9 cells NiMH: 1. On-road: 3650-size or smaller motor with the KV < 3800 2. Off-road / Buggy / Monster: 3650-size or smaller motor with the KV < 2700.	Sensorless Brushless Motor For 2S Lipo or 6 cells NiMH: 1. On-road: 3660-size or smaller motor with the KV < 6000 2. Off-road / Buggy / Monster: 3660-size or smaller motor with the KV < 4000 For 3S Lipo or 9 cells NiMH: 1. On-road: 3660-size or smaller motor with the KV < 4000 2. Off-road / Buggy / Monster: 3660-size or smaller motor with the KV < 3000.	Sensorless Brushless Motor For 2S Lipo or 6 cells NiMH: 1. On-road: 3665-size or smaller motor with the KV < 6000 2. Off-road / Buggy / Monster: 3665-size or smaller motor with the KV < 4000 For 3S Lipo or 9 cells NiMH: 1. On-road: 3660-size or smaller motor with the KV < 4000 2. Off-road / Buggy / Monster: 3660-size or smaller motor with the KV < 3000.	Sensorless Brushless Motor For 2S Lipo or 6 cells NiMH: 1. On-road: 3670-size or smaller motor with the KV < 6000 2. Off-road / Buggy / Monster: 3670-size or smaller motor with the KV < 4000 For 3S Lipo or 9 cells NiMH: 1. On-road: 3670-size or smaller motor with the KV < 4000 2. Off-road / Buggy / Monster: 3670-size or smaller motor with the KV < 3000. For 4S Lipo or 12 cells NiMH: 1. On-road: 3670-size or smaller motor with the KV < 3000 2. Off-road / Buggy / Monster: 3670-size or smaller motor with the KV < 2000.
Suitable Car	1/10 car	1/10 car	1/10 car	1/10 car
Resistance	0.0014ohm	0.0007ohm	0.0005ohm	0.0004ohm
Battery	2~3 cells Lipo/4~9 cells NiMH			2~4 cells Lipo/4~12 cells NiMH
BEC Output	6.0V/7.4V/8.4V 6A (switch mode)			
Dimensions/Weight	50x35x34mm / 90g		50x35x34mm / 96g	

Set up Throttle Range (After setting, replace the transmitter and be sure to reset it. If you haven't Set up Throttle Range, you don't need to set it.) ① Turn on the transmitter, and set parameters (of the throttle channel) EPA to 100%. ② Set the TRIM.TH to 0. ③ Connect all the wires. ④ Turn on the transmitter after pulling the Throttle forward direction to the maximum. ⑤ Press the power switch button and hold it until the motor emits twice "Beep-Beep", then release the switch button and enter the programming mode. ⑥ The throttle hold forward direction to the maximum and waits for the motor emits "Beep-Beep" and LED flashes one time. ⑦ The throttle returns and waits for the motor emits "Beep-Beep" and LED flashes one time. ⑧ The throttle is pushed back to the maximum and waits for the motor emits "Beep-Beep" and LED flashes one time. ⑨ The throttle returns to the center again and the throttle travel setting is complete.

OPERATION STEPS

- Connect BEC wires with the receiver; Connect motor wires with ESC.
- Turn on the transmitter.
- Connect battery pack with ESC then switch on the ESC.
- When the connection of motor and battery is finished, the motor emits "Beep-Beep" tone.
- When the throttle stick is in the neutral position, the motor re-emits "Beep-Beep" tone.
- Make two sounds with the BEC voltage of 6.0V and three sounds with the BEC voltage of 7.4V, four sounds with the BEC voltage of 8.4V. Force BEC output 6.0V when BEC is set to 7.4V/8.4V input to 2S lithium battery.
- BEC voltage change: 1、switch off the ESC, connect short-circuit chip to BEC turn on the ESC and wait for 5S and unplug short-circuit chip. 6.0V to 7.4V to 8.4V Cyclic switchover. 2、set the BEC voltage with the programming card.

TROUBLESHOOTING

- If after power on, motor can't work, no sound is emitted, please check the connections between battery pack and motor.
- If after power on, LED flashes, please check the voltage of battery pack, which should be from 6V~26V.
- If the motor emits a "Beep-Beep" tone Only, please check all the connections: BEC wires, transmitter and receiver, throttle signal wires, etc. please check the transmitter TH.TRIM and adjust it to the motor re-emits "Beep-Beep" tone.
- If the car can't be speed up, please check either voltage of the battery pack is too low or the temperature of ESC is too high. If the voltage of the battery pack is too low, please replace the battery pack. If the temperature of ESC is too high, please check all connections. If not, please push the button EPA on your remote control.
- If the car stops suddenly while in working state, please check the motor's connections, and the roadblock.
- If the car runs in the opposite direction, which the transmitter is available, please swap two wire connections between the ESC and the motor.

CUSTOMIZING THE ESC

To begin, connect the ESC battery wires to a charged battery, then connect the BEC wire 3pin wire to the program card "S+" port (3pin port). Turned on the ESC, the programming card will automatically read the ESC settings, and the setting items of the programming card will display 1 to 15 successively, indicating that the connection is successful. You can start programming ESC. (if it is not displayed, it means that the connection is unsuccessful, please try to turn off ESC repeatedly, reconnect the programming card and turn on ESC again until it is successful)

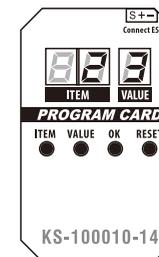
TIPS! Program card is done using the 4 buttons below on the led, The function of each button start from right hand side are ITEM, VALUE, OK and RESET. Please refer to the menu below to program the function settings you need.

"ITEM" button-----go to next item to select.

"VALUE" button-----go to next value select.

"OK" button-----go to confirm your select.

"RESET" button-----go back to factory setup.



Program Manual

Low Voltage Cut-Off: Low Voltage Cut-Off: The function is mainly to prevent the lithium battery pack from over discharging. When using lithium battery pack, please set the suitable value for low-voltage protection as your like. (Reference Table) ESC monitors the battery voltage at all times, the low voltage sets the threshold, the ESC is reduced to 40% of the power output, which lasts for 20 or 30 seconds and then completely cuts off the output. And the motor emits "Beep-Beep" and LED lights flashing. Automatic shutdown after approximately two minutes

Item	Value	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.Low Voltage Cut-off	<u>3.3V</u>	3.4V	3.5V	3.6V	3.7V	3.2V	3.1V	3.0V	2.9V	
2.Start Mode(Punch)	<u>Level 3</u>	Level 1	Level 6	Level 2	Level 4	Level 5				
3.Max. Brake Force	<u>50%</u>	25%	75%	100%	Disable					
4.Max. Reverse Force	<u>25%</u>	50%	75%	100%						
5.Neutral Range	<u>9%</u> (Normal)	6% (Narrow)	12% (Wide)							
6.Motor Overheat Protection	<u>120°C Stop</u>	135°C Stop	150°C Stop	120°C Slow	135°C Slow	150°C Slow	Disable			
7.ESC Overheat Protection	<u>105°C Stop</u>	115°C Stop	125°C Stop	105°C Slow	115°C Slow	125°C Slow	Disable			
8.Running Mode	<u>Forward/Reverse/Brake</u>	Forward/Brake	Forward/Reverse							
9.Drag Brake Force	<u>0%</u>	5%	10%	20%	30%					
10.Boost Timing	<u>Off</u>	4°	8°	12°	16°	20°	24°	32°	36°	
11.Turbo Timing	<u>Off</u>	16°	20°	24°	28°	34°	42°	52°	60°	
12.PWM Frequency	<u>8K</u>	2K	4K	12K	16K	24K				
13.Brake PWM Frequency	<u>1KHz</u>	400Hz	600Hz	800Hz	2K	4K				
14.Motor Rotation	<u>CCW</u>	CW								
15.BEC Voltage	<u>6.0V</u>	7.4V	8.4V							

Underscore letter indicate factory default settings, The program card are common use, this ESC do not have the function of "10-14".

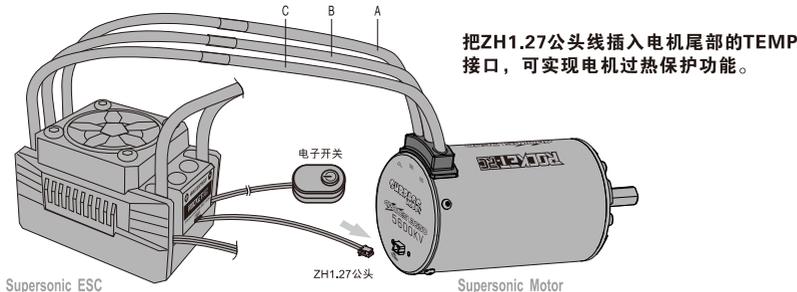


声 明

这是车用电子速度控制器 (ESC)。RC 模型的大功率系统非常危险, 因此请仔细阅读本手册。由于我们无法控制产品的正确使用、安装、应用或维护, 因此对于使用产品造成的任何损害、损失或成本, 我们不应承担或接受任何责任。因操作、故障等引起的任何索赔将被拒绝。我们不承担人身伤害、产品或工艺造成的相应损害的责任。

特点:

- 全天候的防水防尘设计(注意: 请在水中使用此 ESC 之前卸载冷却风扇; 使用后做好清洁和干燥处理, 避免连接器生锈。)
- 专为 RC 模型车设计, 具有出色的启动、加速和线性功能。
- 用于无传感器无刷电机。
- 抗电能力强, 散热性极佳。
- 多种保护功能: 锂或镍电池的低压切断保护 /ESC 过热保护/ 电机过热保护/ 油门信号丢失保护/电机堵转保护。
- 内置开关模式 BEC 6.0V/7.4V/8.4V 6A 可切换电压, 兼容高扭矩和高压伺服。
- 低压保护后马达发出蜂鸣声提示和 led 灯闪烁提示, 电机电调过热 led 灯闪烁提示。电调过热一次慢闪烁加两次快闪烁, 电机过热一次慢闪烁加一次快闪烁
- 低压保护两分钟后自动关机, 其他情况 5 分钟没有操作自动关机
- 易于编程, 并与袖珍大小的程序卡兼容。



规格:

Model	Supersonic V2 50A	Supersonic V2 60A	Supersonic V2 90A	Supersonic V2 110A
持续电流/瞬时电流	50A/240A	60A/360A	90A/480A	110A/520A
电机类型	无感无刷电机 2S 锂电池或 6S 镍氢: 1. 平跑车: 3650电机 KV<5600 2. 越野/大脚/卡车: 3650电机KV<3900 3S 锂电池或 9S 镍氢: 1. 平跑车: 3650电机 KV<3800 2. 越野/大脚/卡车: 3650电机KV<2700.	无感无刷电机 2S 锂电池或 6S 镍氢: 1. 平跑车: 3660电机 KV<4000 2. 越野/大脚/卡车: 3660电机KV<4000 3S 锂电池或 9S 镍氢: 1. 平跑车: 3660电机 KV<4000 2. 越野/大脚/卡车: 3660电机KV<3000.	无感无刷电机 2S 锂电池或 6S 镍氢: 1. 平跑车: 3665电机 KV<6000 2. 越野/大脚/卡车: 3665电机KV<4000 3S 锂电池或 9S 镍氢: 1. 平跑车: 3665电机 KV<4000 2. 越野/大脚/卡车: 3665电机KV<3000.	无感无刷电机 2S 锂电池或 6S 镍氢: 1. 平跑车: 3670电机KV<6000 2. 越野/大脚/卡车: 3670电机 KV<4000 3S 锂电池或 9S 镍氢: 1. 平跑车: 3670电机KV<4000 2. 越野/大脚/卡车: 3670电机 KV<3000. 4S 锂电池或 12S 镍氢: 1. 平跑车: 3670电机KV<3000 2. 越野/大脚/卡车: 3670电机 KV<2000.
合适的车型	1/10 RC车	1/10 RC车	1/10 RC车	1/10 RC车
内阻	0.0014ohm	0.0007ohm	0.0005ohm	0.0004ohm
电池	2~3S锂电/4~9S镍氢			2~4S锂电/4~12S镍氢
BEC输出	6.0V/7.4V/8.4V 6A(切换模式)			
尺寸/重量	50x35x34毫米 /90克		50x35x34毫米 /96克	

油门行程设置(设置后更换遥控器一定要重新设置, 如果没有设置过可以不用设置): ①、打开遥控器设置油门通道 EPA到100%, TRIM.TH设置到0。②、连接好所有线。③、油门拉到前进最大后打开遥控器。④、按下电调开关按键不松开等待电机发出两声蜂鸣声后松开电调开关按键后进入编程模式。⑤、等待电机发出一声蜂鸣声并且LED灯闪烁一次。⑥、油门回中等待电机发出一声蜂鸣声并且LED灯闪烁一次。⑦、油门推到后退最大等待电机发出一声蜂鸣声并且LED灯闪烁一次。⑧、油门再次回中, 油门行程设置完成。

操作方法:

- 将 BEC 电线与接收器连接; 将电机电线与 ESC 连接。
- 打开发射机。
- 将电池组与 ESC 连接, 然后打开 ESC。
- 当电机和电池的连接完成时, 电机发出“蜂鸣声”的音调。
- 当油门处于中立位置时, 电机重新发出“蜂鸣声”的音调。
- 发出两次声音当前BEC电压6.0V, 发出三次声音当前BEC电压7.4V, 发出四次声音当前BEC电压8.4V。当BEC设置为7.4/8.4V输入为2S锂电时强制BEC输出6.0V。
- BEC电压切换: 1、连接短路线到BEC后打开电调等待大约5秒后拔掉短路线就切换成功。6.0V~7.4V~8.4V 循环切换。2、用编程卡设置BEC电压。

故障排除:

- 如果打开电源后, 电机无法工作, 没有发出声音, 请检查电池组和电机之间的连接。
- 如果电源打开后, LED 闪烁, 请检查电池组的电压, 这应该是从6V~26V。
- 如果电机只发出一声“蜂鸣声”, 请检查所有连接: BEC 电线、发射机和接收器、油门信号线等。请检查发射机 TH.TRIM 并调整它到电机再次发出“蜂鸣声”的音调。
- 如果车不能正常加速, 请检查电池组的电压是否太低或ESC的温度过高。如果电池组的电压太低, 请更换电池组。如果 ESC 的温度过高, 请检查所有连接。如果不是前面问题, 请检查遥控器上的EPA。
- 如果模型车在工作状态下突然停止, 请检查电机的连接和故障。
- 如果模型车朝相反的方向运行, 并且发射机设置正常, 请在 ESC 和电机之间交换两根电线连接。

编程电调

首先, 将电调电池线连接到已充电的电池, 然后将 BEC线3 针线连接到编程卡“S+”插口(3 插口)。打开ESC电源开关, 编程卡将自动读取ESC设置, 编程卡设定项依次显示1到15表示连接成功, 您可以开始对ESC进行编程设计。(如果没有显示表示连接不成功, 请重复尝试关闭ESC, 重新连接编程卡再打开ESC直到成功)

编程方法! 编程卡是使用4个按钮完成的, 每个按钮的功能从左侧开始是“编程项目(ITEM)、值(VALUE)、确定(OK)、重置(RESET)”。

“编程项目(ITEM)”按钮——按下转到下一个编程项目。

“值(VALUE)”按钮-----按下转到下一个值。

“确定(OK)”按钮-----按下以确认您的设置。

“重置(RESET)”按钮----按下恢复出厂设置。



请参照下面功能表编程您需要的功能设置。

编程卡功能表

低电压切断: 其功能主要是防止锂电池组过度放电。使用锂电池组时, 请将适合的低压保护值设置为您喜欢的。(参考表格) 电调时刻监控电池电压一旦低压设置阈值电调降低到40%功率输出, 持续二三十秒后完全切断输出。并且电机不断发出蜂鸣声和LED灯闪烁。持续大约两分钟后自动关机!

选项	值	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.低电压保护	3.3V	3.4V	3.5V	3.6V	3.7V	3.2V	3.1V	3.0V	2.9V	
2.加速度	Level 3	Level 1	Level 6	Level 2	Level 4	Level 5				
3.最大刹车力度	50%	25%	75%	100%	无效					
4.最大倒车力度	25%	50%	75%	100%						
5.油门中立点范围	9% (正常)	6% (窄)	12% (宽)							
6.电机温度保护	120°C 停车	135°C 停车	150°C 停车	120°C 慢车	135°C 慢车	150°C 慢车	无效			
7.电调温度保护	105°C 停车	115°C 停车	125°C 停车	105°C 慢车	115°C 慢车	125°C 慢车	无效			
8.运行模式	前进/倒退/刹车	前进/刹车	前进/倒退							
9.拖刹力度	0%	5%	10%	20%	30%					
10.Boost 进角	Off	4°	8°	12°	16°	20°	24°	32°	36°	
11.Turbo 进角	Off	16°	20°	24°	28°	34°	42°	52°	60°	
12.驱动频率	8K	2K	4K	12K	16K	24K				
13.刹车频率	1KHz	400Hz	600Hz	800Hz	2K	4K				
14.电机转向	CCW	CW								
15.BEC 电压	6.0V	7.4V	8.4V							

注: 1、带下划线“—”表示出厂默认值, 2、编程卡是多款电调通用产品, 这款电调没有项目10-14项编程功能。

